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ABSTRACT

The idea that all curricula should reflect learnings that are common across subject areas has only recently been considered in British Columbia. Within the past year, the change in focus resulted from the British Columbia Ministry of Education's (BCME) adoption of a definition of an educated person as an ideal toward which educators should be directed and a definition of goals and attitudes for monitoring system performance. The British Columbia Learning Assessment Program--introduced in 1975 as a way of providing educators, the public, and government with information about student performance--has concentrated on language arts, mathematics, science, and social studies. Results reported to each school and district are useful in curriculum evaluation. End-of-course grade 12 examinations were reintroduced in 1983 after an absence of 10 years. Determining the impact of such examinations and assessments is a major question facing the BCME. A second major challenge is how to assess students' higher-order critical thinking skills. The issue of educational standards is closely related to the increased emphasis on monitoring students and system performance. Other issues include the design of tests and assessments and finding better ways to report test results. A true test will be whether the assessment and examination programs will be able to change quickly enough to address the issues that need to be faced. (SLD)

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CURRICULUM AND ASSESSMENT TRENDS IN BRITISH COLUMBIA

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BACKGROUND

Like most Canadian provinces, British Columbia's education system is characterized by central government control over curriculum goals, objectives, and resources. Until recently British Columbia's curriculum development efforts have focused primarily on subject matter content and have not been driven by a common conceptual framework. In other words, curriculum developers have tended to make decisions about what math teachers should teach and what science students should be expected to learn but have not been forced to work with a set of curriculum goals. Each curriculum development committee has seen the specification of content as its chief responsibility and committees have generally worked in isolation from one another. The notion that all curricula should reflect learnings which are common across subject areas has only recently been considered.

The focus of curriculum development activity in British Columbia has changed within the last year, however. This change is a result of the adoption, by the Ministry of Education, of a statement which presents a vision of the educated person as an ideal toward which the efforts of educators within the school system should be directed. This statement is also intended to serve as a source for a common set of curriculum goals around which all provincial curricula will be developed in the future.

According to the Ministry, the educated person

> is one who is a thinking individual, capable of making independent decisions based on analysis and reason. The individual is curious, capable of and interested in learning, capable of acquiring and imparting information, and able to draw from a broad knowledge base. The individual appreciates and is able to contribute to creative expression. The individual is self-motivated, has a sense of self-worth, pursues excellence, strives to be physically healthy and is able to achieve satis-

faction through achievement. The individual has sound interpersonal skills, morals and values, and respects others who may be different, understands the rights and responsibilities of an individual within the family, community, nation, and the world and is aware of Canada's cultural heritage. The individual is flexible, and has skills necessary to function in and contribute to the world of work.

Although this is not intended to be a description of the 'finished product' of the B. C. education system, implementation of the principles outlined in the above statement has led directly for a call to assess the extent to which this ideal is being achieved. More will be said later about the implications for assessment which arise out of the adoption of this image statement.

In addition to the image statement outlined above, the Ministry also has adopted a set of four goals and six attributes against which it intends to monitor system performance (as opposed to individual student performance on the curriculum). These goals (intellectual, social, vocational, and human development) and attributes (cost-effectiveness, accessibility, relevancy, professionalism, accountability, and public satisfaction) are being emphasized by the Ministry of Education in its efforts to monitor system and student performance.

As a way of implementing the Ministry's goal statements, an additional five goals have been devised. These curriculum goals are intended to serve as the foundation for all provincial curriculum development efforts. Briefly, these goals are directed toward the promotion of growth in:

1. the ability to engage in appropriate forms of inquiry (problem solving, decision-making, critical thinking, creative thinking) required in the study of school disciplines as well as in everyday situations.
2. the acquisition of a knowledge base relevant to school disciplines and everyday life.
3. reflective understanding (It is assumed that this understanding will help students to select and apply skills and knowledge appropriately in different situations).
4. the development of personal and shared attitudes.
5. the development of a positive self-concept.

A recent report by the British Columbia Auditor General has called for a greater emphasis on the outcomes (both intended and unintended) of the curriculum and on the human, social, and vocational goals of schooling. The report expresses specific concerns about the current lack of curriculum evaluation information and considers the Ministry's Learning Assessment Program to be too narrowly focused on intellectual goals and too widely spaced to provide adequate information about student and system performance over time.

Within the past year a Royal Commission on Education has been appointed in British Columbia. This commission has a broad mandate to look at all aspects of the B. C. educational system and to report its findings to the provincial Cabinet. It is clear that the Commission will have much to say about the future directions of British Columbia's education system over the next 20 to 25 years.

ASSESSMENT AND TESTING IN BRITISH COLUMBIA: AN OVERVIEW

1. The British Columbia Learning Assessment Program

The B. C. Learning Assessment Program was introduced in 1975 as a way of providing B. C. educators, the public, and government with information about the performance of groups of students in meeting the goals and objectives of provincially-set curricula. The program was developed partially as a response to the discontinuation, in 1973, of end-of-course grade 12 examinations and partially in the belief that the systematic collection and dissemination of assessment data would lead to the more effective management of education at the provincial and local levels.

The Learning Assessment Program has five major purposes. These are:

1. To inform professionals and the public of some of the strengths and weaknesses of the public school system.
2. To provide information to the Ministry for the development, review, and modification of curricula.
3. To provide information to assist in the allocation of resources.
4. To identify areas of need concerning teacher education (pre-service and in-service).
5. To provide directions for educational research.

In British Columbia, learning assessments have concentrated on four basic core curriculum areas: language arts (reading and writing), mathematics, science, and social studies. The assessments consist of achievement tests (three forms and matrix sampling are used), student questionnaires and attitude surveys, and administrator and teacher questionnaires dealing with curriculum implementation and instructional practices. Recently, French programs were added to the list of areas assessed. A four-year assessment cycle has been in operation since the program was introduced and is currently under review. The current cycle results in the assessment of a given curriculum area once every four years.

Results are reported to each school and district in a manner which enables school and district comparisons to provincial means within each of the domains tested. At the present time, total test scores are not produced, although this situation is under review. Districts and schools are expected to engage in an interpretation process which is intended to identify action plans for maintaining strengths and overcoming weaknesses. This process is similar to one conducted at the provincial level.

2. The Provincial Examination Program

End-of-course, grade 12 examinations were reintroduced in British Columbia in 1983 after an absence of 10 years. The purpose of these

examinations, as stated at the time of their reintroduction, is to ensure that grade 12 students meet consistent provincial standards of achievement in the academic subjects, to ensure that all students will receive equitable treatment when applying for admission to universities and other post-secondary institutions, and to respond to public concerns for improved standards in education.

Final results in courses having Provincial examinations are based 50% on a mark assigned by teachers and 50% on the examination. The grade 12 courses examined are Algebra, Biology, Chemistry, Communications, English, English Literature, Français-Langue, French, Geography, Geology, German, History, Latin, Physics, and Spanish. Examination specifications provide a link between the goals and objectives of provincial curricula and the examinations.

An important feature of the B. C. examinations program is the involvement of teachers at every stage of the test development process from the establishment of examination specifications to the marking of student papers and the setting of standards. The examinations developed through this process are comprised of multiple-choice and written-response questions. The emphasis on student written responses varies across examinations from a high of 70% in English to a low of 25% in Algebra.

The standard setting process used for the examinations program is best described as empirical-judgmental. A unique feature of the process is the use of classroom teachers as the judges or experts. These teachers, who are also employed to mark the written sections of the examinations, are asked to make

initial judgments about performance which should be considered at the A, B, C+, C, P or F level. At the end of the marking session the same teachers are provided information about the actual performance of students and are asked if they wish to change their judgments. Final teacher judgments are then given to the Provincial Board of Examiners (a government-appointed body) for review and ratification.

Results are reported to students, schools, and school districts. Summaries are provided which enable school administrators and teachers to compare the performance of their students to district and provincial means. Districts are provided with school summaries and, along with schools, are given a set of interpretation guidelines to assist in the process of making sense out of the test data.

ISSUES AND TRENDS

Issue 1: Determining the impact of examinations and assessments

A major question facing the Ministry of Education is the extent to which the Learning Assessment and Examinations programs have had both desired and undesired impacts on the B. C. education system. In the case of the Learning Assessment program, it has long been assumed that the provision of assessment information to schools and districts would help to improve the delivery of provincial programs. The extent to which learning assessments have in fact had this desired effect requires careful study, however. Such a study, to be carried out by an external agency or group of investigators, is currently being considered by the Ministry. Similar concerns have been raised about the Provincial examination program, most recently by the B. C. School Trustees' Association.

Critics often raise concerns about the 'unnecessary narrowing of provincial curricula' which result, they claim, when mandated provincial

examinations and assessments are used as devices to monitor the school system. The high-stakes nature of the Provincial examinations makes them particularly susceptible to this criticism. It is claimed that teachers of courses with Provincial examinations no longer offer the range of classroom activities to their students that they once did and that they are simply 'teaching to the test'. These claims, too, urgently need to be studied.

Issue 2: The assessment of critical thinking skills

The British Columbia Ministry of Education has identified critical thinking as the most important curriculum goal and the one on which future curriculum development will focus. This goal is stated in developmental terms, is very broad in scope and, at this point, lacks precise definition. The goal statement reads as follows:

> To promote growth in the ability to engage in appropriate forms of inquiry (problem solving, decision making, critical thinking, creative thinking) required in the study of school disciplines as well as in situations of everyday life involving self, family, society (community, nation, world) and the world of work.

At the present time, B. C. learning assessments are based on curricula which do not include this broad goal or any specific learning outcomes based on this goal. The assessments have made some attempts, however, to determine student problem solving abilities in mathematics, and critical comprehension skills in reading, social studies, and science. Success in determining levels of student performance on critical thinking tasks has been limited to a great extent by the ability of item developers to produce multiple-choice test items which adequately assess thinking skills.

A major challenge facing those of us involved in large-scale testing in British Columbia is how to assess higher-order (critical thinking) skills. It

is my belief that multiple-choice formats can be used to address some aspects of critical thinking. However, to assess adequately the range of expectations outlined in the critical thinking goal will require more novel approaches to assessment. It seems clear that what is necessary is an approach which relies much more heavily on supply-type, paper and pencil tests and on field-based observational studies of student performance, and less on multiple-choice and other objectively-scored tests.

Issue 3: Educational standards

The issue of educational standards is closely related to the increased emphasis of the B. C. Ministry of Education on monitoring student and system performance. As with most standard-setting exercises there is currently a debate over the most appropriate way that the standards should be set.

In addition, there are those who maintain that standards of all types exist within the system at the present time but that these standards are not explicit. For example, it is considered acceptable that 10 percent of the students writing the Algebra 12 Provincial examination will fail. No specific, explicit criteria are available to support the appropriateness of this 'standard'. Nonetheless, it is being applied.

Another aspect of the standards debate relates to the way that standards are developed. Should specific standards be developed in each curriculum area and at each level or should a generic set of standards be developed from the image statement outlined earlier? These are questions which are currently being considered within the Ministry.

In many respects, the standards issue has arisen out of a desire to move the discussion about student and system performance away from simple

comparisons to a provincial mean. Of necessity, such comparisons result in winners and losers. There is a strong sense emerging in the B. C. educational community that it is far more fruitful to consider criterion-referenced approaches than norm-referenced approaches.

Both the Learning Assessment and Examinations programs depend on empirical-judgmental approaches to establish standards. The judgments are made in relation to criteria which are very broad-based and in many cases are not clearly defined. It is important to recognize that while the setting of standards may be considered criterion-referenced, the data which flow from these programs provide schools and districts with opportunities for both criterion- and norm-referenced interpretations.

Reporting the results of both programs has, however, relied on norm-based approaches. Schools and districts find themselves comparing their performance to that of the province as a whole. As a way of addressing what is seen as a serious problem with the way that schools and districts interpret the results of both the Learning Assessment and Examinations programs, the Ministry has committed itself, over the next five years, to providing schools and districts with sets of pre-determined standards against which student and system performance may be compared. It is hoped that the establishment of an explicit set of educational standards and criterion-referenced reporting and data interpretation strategies will assist schools and districts in their improvement efforts to a much greater extent than previous interpretation approaches.

Issue 4: The design of tests and assessments

Another major issue which is currently being addressed by Ministry staff is the extent to which Provincial examinations and learning assessment tests

enable comparisons over time. A legitimate concern is being expressed within government about the limited extent to which questions like "Are students better or worse at mathematics now than they were five years ago?" can be answered using the results of existing tests. There also seems to be a strong desire on the part of school districts for better information about the state of educational attainment of students. Both classical and item response theory solutions to this problem are being considered. It seems clear, however, that a fundamental change must be made to the development and analysis process to ensure that such comparisons are possible in the future.

A second test design issue which must also be considered is that of broadening of the scope of the Provincial examinations and assessments to cover a larger range of curriculum and system goals. While the most important of the educational goals outlined by the Ministry is the intellectual development goal, future assessments must also be ready to gather information about the social, human, and vocational goals if they are to provide a more comprehensive view of what is supposed to be happening in schools.

Issue 5: Finding better ways to report the results

A common criticism of large-scale testing programs is the lack of use that various audiences make of the data. To a great extent, the problem rests with the inability of test administrators and agencies to report results in a manner which is clear, and easy-to-understand.

In British Columbia, reports of learning assessment results have tended to require detailed interpretation guidelines in order for even professionals to make sense of the levels of achievement attained by students. Interpretation has generally been ignored by schools and districts or given

brief attention. Reports have provided a wealth of technical information but have not really focused on ways that teachers can use the results to improve programs at the classroom level. Similarly, little attention has been given to the public's need to have information about the state of student achievement. Simple, fundamental questions like "How well are students able to read?" have been addressed through press releases which usually are accorded back page status.

The Ministry's view of the way it reports achievement information and the purpose of keeping the public informed is changing, however. Evaluation information is seen as a way of defending the system against its detractors, and as a way of gaining political and public support for appropriate levels of funding and other resources for the public system.

One of the ways that a strong case for educational funding can be made is through the provision of data which demonstrates that the education system is a relative success when compared with other jurisdictions. As a result there is an increasing desire within government to have access to data which compares test results for B. C. students with those from other provinces, states, and countries. British Columbia has participated in a number of recent international studies of educational achievement (e.g. IEA International Mathematics and Science, NAEP Mathematics and Science) and will continue to be involved in future studies (e.g. IEA Reading Literacy).

SUMMARY

Assessment and testing programs in British Columbia are being carefully scrutinized by a variety of stakeholders within the educational community. It seems clear that the demand for more and better information about the performance of students and the education system will be increasing in the

years ahead. At the same time, there is some disappointment in the fact that assessment in the province has not had the dramatic impact that it seemed to promise. The true test will be whether the B. C. assessment and examination programs will be able to change quickly enough to address the issues that need to be faced.